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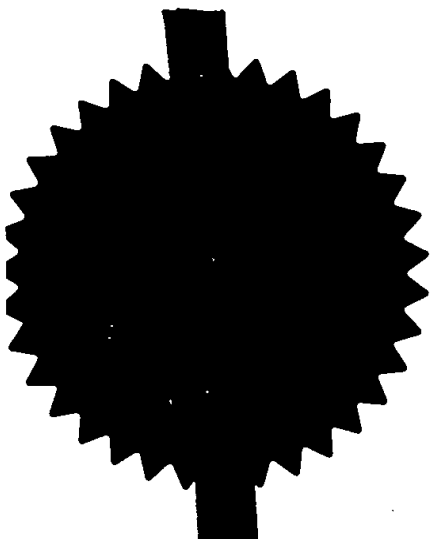
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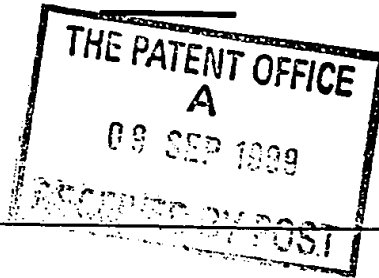
Signed

Dated 19 SEP 2000



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The Patent Office

Cardiff Road  
Newport

Gwent NP9 1RH

1. Your reference

GW-G28941

2. Patent application number

(The Patent Office will fill in this part)

9921192.2

09 SEP 1999

3. Full name, address and postcode of the or of each applicant (underline all surnames)

John SYKES

The Old Vicarage  
Scalby  
Scarborough  
YO13 0RP

7476633001  
England

Patents ADP number (if you know it)

If the applicant is a corporate body, give the country/state of its incorporation

4. Title of the invention

Urinal Apparatus

5. Name of your agent (if you have one)

Bailey Walsh & Co.

"Address for service" in the United Kingdom to which all correspondence should be sent (including the postcode)

5, York Place  
Leeds  
LS1 2SD

Patents ADP number (if you know it)

224001

If you are declaring priority from one or more earlier patent applications, give the and the date of filing of the or of each of these earlier applications and (if you know it) the or each application number

Country

Priority application number  
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7. If this application is divided or otherwise derived from an earlier UK application, the earlier application

Number of earlier application

Date of filing  
(day / month / years)

8. Is a statement of inventorship and of right to grant of a patent required in support of this request? (Answer "Yes" if:

No

- a) any applicant named in part 3 is not an inventor, or
  - b) there is an inventor who is not named as an applicant, or
  - c) any named applicant is a corporate body
- See note (d)

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Continuation sheets of this form

Description

6 / *SH*

Claim(s)

Abstract

Drawing(s)

1 + 1

10. If you are also filing any of the following, state how many of each item.

Priority Documents

Translations of priority documents

Statement of inventorship and right to grant of a patent (*Patents Form 7/77*)

Request for preliminary examination and search (*Patents Form 9/77*)

Request for substantive examination (*Patents Form 10/77*)

Any other documents  
(Please specify)

11. I/We request the grant of a patent on the basis of this application

Signature

*G Wood*

Date

08. 09. 99

12. Name and daytime telephone number of person to contact in the United Kingdom

G Wood  
0113 2433824

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## Urinal Apparatus

The invention to which this application relates is apparatus in the form of a urinal and particularly, although not necessarily exclusively to a male urinal of the type which is wall mounted in toilet facilities in commercial premises such as, for example, service stations, public houses, stadia and the like.

The applicant's co-pending Application No. PCT/GB99/02064 discloses the ability to provide a visual display as part of the urinal facility and said display can be controlled to provide entertainment, information and/or advertising material to the user of the urinal. The urinal is provided with a sensor which can be any suitable sensor system but one which is particularly effective is a conductive sensor, and the display is caused, in one embodiment to change as a result of activation of the sensor.

The aim of the present invention is to provide for improvements to the provision of urinals with a display means.

In a first aspect of the invention there is provided a urinal facility, and wherein said facility includes a screen for the display of video data and/or speakers for audio data, which screen is positioned with respect to the urinal so as to be viewed by a person when using the urinal.

In one embodiment the urinal is a male urinal which is wall mounted and has a collection area leading to a drain and, depending upwardly from the collection area, a wall and wherein said screen is mounted in or on top of the wall section as part of the urinal.

In an alternative embodiment the screen is located at a position removed from the urinal but viewable to a person using the same.

On the occasion of the urinal facility having a number of bays, the same may be provided with a display screen for each bay or, alternatively, a common screen.

In one embodiment the video and/or audio data can be supplied from a video tape/ compact disc or recording media apparatus located with the apparatus or connected to the display screens at a remote location within the premises or removed from the premises. In one embodiment the material to be displayed can be updated from a remote location and/or the video/ CD can be replaced as and when required.

In a further aspect of the invention there is provided a urinal facility and a sensor, wherein said sensor is arranged to detect the presence of a user of the urinal and a means is provided to allow the storage of details relating to usage of the urinal.

In one embodiment the results from the sensor which indicates the use or frequency of persons entering the area in which the facility is provided, can be stored for subsequent analysis in which frequency and times of usage can be analysed.

In one embodiment the sensor is provided as an integral part of the urinal facility and senses the commencement of use of the facility. In an alternative embodiment the sensor is provided to react to the presence of a person in the immediate vicinity of the urinal. In a yet further embodiment a proximity switch, the beam of which is broken by a person using the urinal, can be used as the sensor.

In one embodiment the information from the sensor is used to allow the number of uses of the urinal facility to be monitored.

In addition to the sensor acting as a counting means, it can be used to activate the display or other features of the facility and/or a further sensor may be provided to allow the activation of the display or other features of the facility.

In a further aspect of the invention there is provided a urinal facility provided with or in connection with, a display screen, said screen provided for the display of material to a user of the urinal and wherein the display is activated or the condition is changed in response to the insertion of a coin, token, or card into apparatus in connection with the display screen.

The user of the urinal may have paid for the activation via coin or token or card or, alternatively, may have been given same as a promotional scheme.

In one embodiment the display is for a game of chance such as a gambling game activated by inserting the coin, token or card, or alternatively, the user may be able to try and win by activating a sensor connected with the urinal and/or display screen.

In a further embodiment the means for receiving the coin, token or card and/or display screen are provided as integral parts of the urinal facility.

It is envisaged that, in whatever embodiment, the urinal facility and display screen can be powered from a means supply or alternatively by portable power sources.

In a further aspect of the invention there is provided a urinal facility which includes a sensor mounted thereon, said sensor provided to indicate a change in condition of the facility and

wherein the sensor is controlled to react to a specified liquid or liquids.

In one embodiment the sensor is provided to change condition upon use of the facility and is controlled to react to urine liquid but not water so as to avoid activation during the urinal flushing process.

In one embodiment the sensor used is a conductive sensor and the sensitivity of the same is adjusted to allow the same to react upon contact with some liquids and exclude others in reaction to the particular conductivity of the liquid.

Specific embodiments of the invention will now be described with reference to the accompanying drawings wherein;

Figure 1 illustrates a urinal facility according to one aspect of the invention; and

Figure 2 illustrates a urinal facility according to a further aspect of the invention.

Referring to Figure 1 there is illustrated a urinal facility 2 according to one embodiment of the invention which includes two bays, 4, 6 each of which has a urinal collection area and which, in this area lead to a common drain 8. Depending up from the collection areas respectively are walls 10, 12 and as part of each wall is provided a screen 14,16. The screen is provided for the display of video data such as adverts, games and the like. The screens are mounted so as to be viewable by persons using the facility and are positioned at a convenient height and may also be angled to allow easy viewing by the user. It is envisaged that the display screens will be mounted behind a protective front face, and may be positioned at a distance



behind the screen so that impact on the panel does not necessarily contact the display screen.

In one embodiment the video data which is displayed on the screen is done on a continuous basis from a video/compact disc or other storage means apparatus which in one embodiment be mounted within the urinal facility or may be positioned at a remote location from but connected to the facility. In an alternative arrangement the display of the video data can be commenced in response to the activation of a sensor system which signifies that the urinal facility is being used or that a person has entered the area in which the urinal facility is mounted and can therefore view the screen. If audio data is to be generated suitable speakers can be provided as part of the facility or within the area. The system for downloading the data can take any suitable form, one being a low maintenance MPEG2 decoder. The hardware is based on a standard PC with INTEL or ALI chipsets e.g. K6-2 35011hz 32 MB Ram S3 Video Card Hard Drive Keyboard and Monitor.

The decoder board is a PCI based board using DMA to drive a full screen VGA output at 720 x 576 resolution. MPEG CD Quality Audio is output and can be decoded into multi channel.

Video is output in Composite, SVHS and RGB as an option. The system software is written in C++ and runs on Windows 98 FAT32 File system without using the windows graphics or device drivers. This allows all the system software to be loaded from a single floppy or bootable CD. The VGA graphics are S3 PCI and a Virtual Device driver allows simultaneous DMA to the decoder board and Linear Address Driver. The system is easily configured run from a trigger or constant play can be selected.

The video data is decoded from an internal IDE drive of 8GB or larger for reliability and speed.

New video is supplied on DVD RAM ROM or standard CDR and downloaded to the hard drive.

Figure 2 illustrates a further embodiment of the invention wherein there is provided a urinal facility 102 with two bays 104, 106. In the embodiment shown each of the bays is provided with sensor 108 mounted on the respective walls 110,112 of the bays 104,106. The sensors can be provided to react to the impact of urine thereon and thereby cause a signal to be sent. The signal can, as has been disclosed in the co-pending application, be used to cause a change in condition of other apparatus for the display of material to the user and/or can, in this aspect, be used to provide a record of the level of usage of the urinal facility. This information can be of value to organisations who may advertise material at the facility or in the area of the facility and indicates to them the persons who are viewing the adverts and the times and peak times of viewing. As an alternative to the provision of the sensor as part of the urinal, a sensor system may be used which includes the sensors located to detect the presence of a person in the vicinity of the urinal facility, or proximity switches which are broken by urine passing through a beam generated by the sensors.

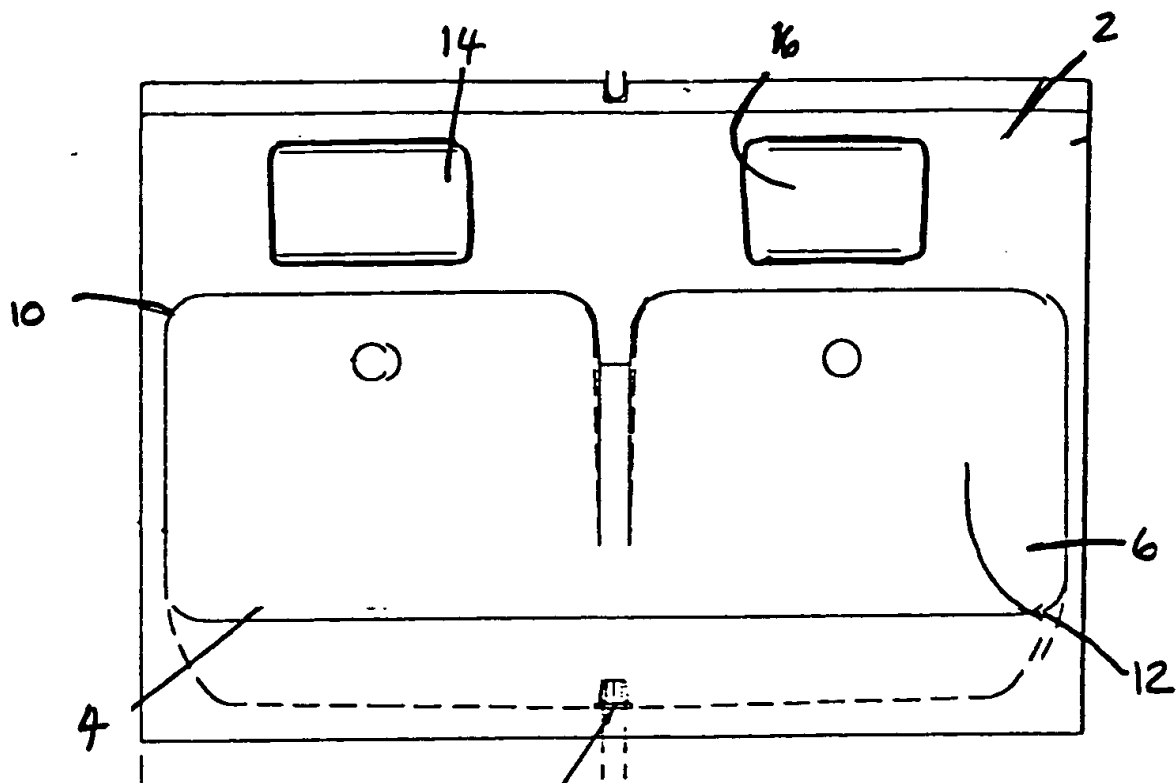


Figure 1

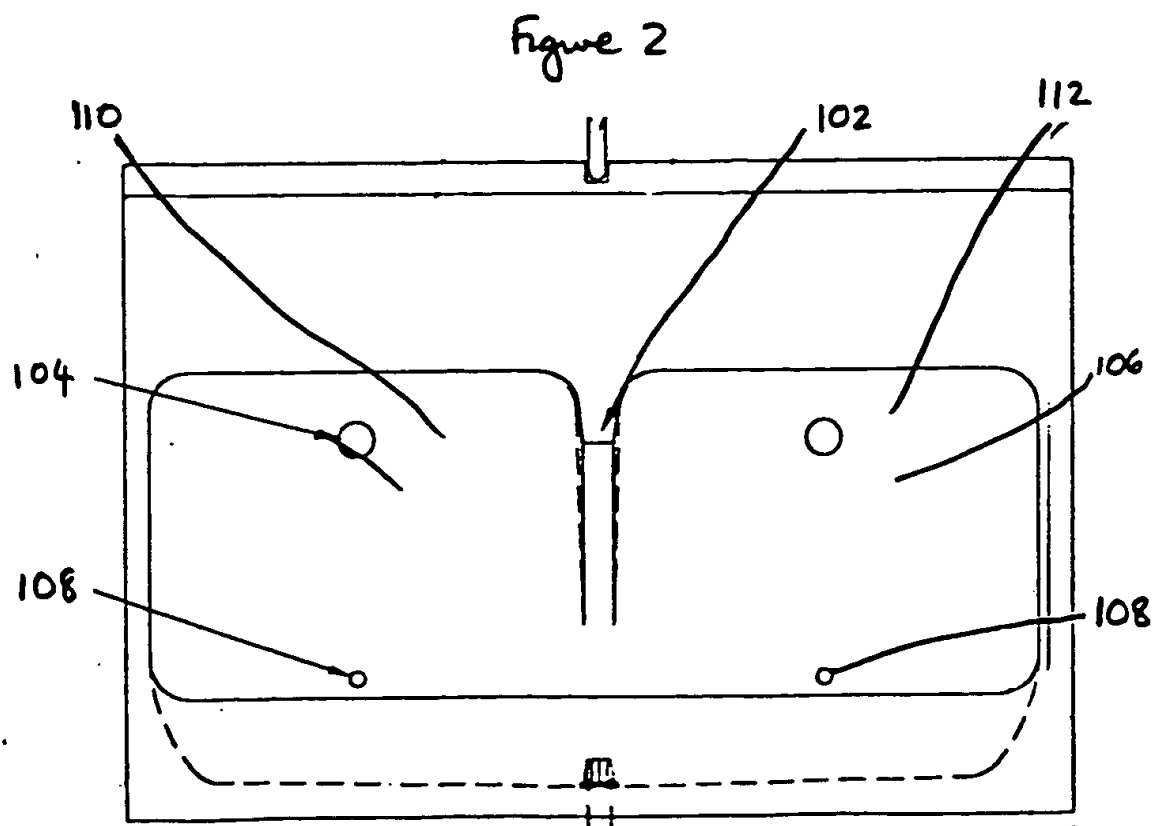


Figure 2